

Abstract

An oxide thin film having good characteristic properties is prepared by reducing an occurrence of an oxygen defect of the resulting oxide thin film and promoting the epitaxial growth of the film. The oxide thin film is prepared by admixing a raw gas, a carrier gas and an oxidation gas and supplying the resulting gas mixture on a heated substrate placed in a reaction chamber from a shower plate through a gas activating means which is maintained, by a heating means, at such a temperature that any liquefaction, deposition and film-formation of a raw material are never caused, to thus make the oxidation gas react with one another and to prepare the oxide thin film on the substrate. In this case, a rate of the oxidation gas flow rate is not less than 60% on the basis of the gas mixture. Furthermore, a flow rate of oxidation gas used for forming an initial layer by nucleation is less than 60%, and a flow rate of oxidation gas used in a subsequent film-forming process for forming a second layer is not less than 60%. Furthermore, in an apparatus for preparing the oxide thin film, a heating means is arranged between a gas-mixing unit and a shower plate.